REMARKS

Claims 1-4 are pending in this application and have been examined. Claims 1-4 stand rejected. Claim 1 has been amended. Reconsideration and allowance of Claims 1-4 in view of the amendment and the following remarks are respectfully requested.

Sequence Listing

The Examiner has stated that the application fails to comply with the sequence disclosure requirements of 37 C.F.R. § 1.821 through 1.825. Applicants have amended the specification to identify the sequences depicted in Figures 1 and 3 with sequence identification numbers and herewith provide a sequence listing for those sequences.

The Rejection of Claims Under 35 U.S.C. § 112, First Paragraph

Claims 1-4 have been rejected under 35 U.S.C. § 112, first paragraph, as not being enabled by the specification. According to the Examiner, the specification does not provide enablement for a method for modifying flowering in plants with a partial sequence encoding an ATH1 gene product. Claim 1, from which Claims 2-4 depend, has been amended to delete the recitation of "complete or partial" DNA sequences. Withdrawal of this ground of rejection is respectfully requested.

The Rejection of Claims Under 35 U.S.C. § 102(b)

Claim 1 has been rejected under 35 U.S.C. § 102(b) as being anticipated by Quaedvlieg et al. (1995) *The Plant Cell* 7:117-129 (Quaedvlieg et al.). According to the Examiner, Quaedvlieg et al. teach a process for modifying flowering plants comprising transforming the plants with a construct comprising the coding region of the ATH1 gene under the control of the constitutive cauliflower mosaic virus 35S promoter. Applicants respectfully disagree for the following reasons.

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The Examiner states that Quaedvlieg et al. teaches that "the ATH1 gene expression is modified or regulated by ATH1 gene construct." Applicants respectfully point out that Quaedvlieg et al. neither discloses nor suggests regulation of ATH1 gene expression by an ATH1 gene construct. In the section of Quaedvlieg et al. referred to by the Examiner (page 124, Column 1, paragraph 2, to Column 2, lines 1-9), the authors discuss the presence of several upstream AUGs in the leader sequence of the native ATH1 gene. The authors point out that in other plant genes possessing upstream AUGs in the leader sequence, the translation of those genes is repressed. By analogy to these other genes, the authors hypothesize that the presence of the upstream AUGs in the leader sequence of the native ATH1 gene also represses translation. The authors indicate that support for regulation of native ATH1 mRNA translation is provided by the fact that they have been unsuccessful in producing transformed plants containing an ATH1 gene construct lacking the ATH1 leader sequence containing the upstream AUGs. This hypothesis assumes (1) that higher levels of transgenic ATH1 expression would be obtained from the ATH1 construct than from the native gene and (2) that such higher levels of transgenic ATH1 expression is toxic to plant development such that no transformants are obtained. The authors specifically point out the tentative nature of this hypothesis (Quaedvlieg et al., page 124, Column 2, lines 7-9). Indeed, this hypothesis has now been disproved by the present application which shows that transformed plants can be generated using an ATH1 gene construct (see Examples 3, 5-7). Therefore, Quaedvlieg et al. does not teach that ATHI gene expression is modified or regulated by an ATH1 gene construct.

The Examiner further states that Quaedvlieg et al. teaches a process comprising transforming plants comprising a complete DNA sequence coding for ATH1. In order to more clearly define applicants' invention, Claim 1, from which Claim 4 depends, has been amended to recite the step of "generating transformed plants with a construct comprising a DNA sequence

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coding for an ATH1 gene product." As pointed out above and in the amendment filed on July 8, 2002, attempts by Quaedvlieg et al. to transform plants with an ATH1 gene construct were unsuccessful. Specifically, Quaedvlieg et al. state:

> In three independent transformation experiments, no green calli could be generated with this construct, whereas as control constructs gave normal numbers of primary transformants.

Quaedvlieg et al., page 124, Column 2, lines 4-7. Since no plants transformed with the ATH1 gene construct were obtained in Quaedvlieg et al., the reference does not disclose the step of "generating transformed plants with a construct comprising a sequence coding for an ATH1 gene product," as required by Claim 1.

Finally, the Examiner states that Quaedvlieg et al. teaches that overexpression of ATH1 in transformed cells inhibits the growth of green calli. Again, applicants respectfully disagree. As mentioned above, the failure to obtain plants transformed with the ATH1 construct led Quaedvlieg et al. to "conclude, tentatively, that high levels of the ATH1 protein interfere with the regeneration of transformed calli." However, this conclusory statement based on a negative result in no way teaches that overexpression of ATH1 in transformed cells inhibits the growth of green calli. Moreover, this statement has now shown to be incorrect in the present application, which shows that transformed plants overexpressing ATH1 protein can be generated.

Applicants also point out that Quaedvlieg et al. does not disclose or suggest that the ATH1 gene product modifies flowering plants. Moreover, such a disclosure cannot be inherent in Quaedvlieg et al. because this reference neither discloses plants transformed with an ATH1 gene construct nor plants expressing an ATH1 gene product encoded by such a construct.

For the reasons described above, Quaedvlieg et al. do not disclose or suggest the invention in Claims 1 and 4, and in fact teach directly away from the claimed invention. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

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Conclusion

In view of the above amendment and foregoing remarks, applicants respectfully submit that Claims 1-4 and 18 are in condition for allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone applicants' attorney at (206) 695-1718.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the below date.

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